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6/15/06

Date

Kresta L. DeZwaan

Kresta L. DeZwaan

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Art Unit : 2878
Examiner : Stephen K. Yam
Applicant : Jeremy A. Fogg et al.
Appln. No. : 10/783,273
Filing Date : February 20, 2004
Confirmation No. : 7606
Docket No. : GEN10 P-455
Customer No. : 028,167
For : AUTOMATIC VEHICLE EXTERIOR LIGHT
CONTROL SYSTEM ASSEMBLIES

Mail Stop Reply Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

TRANSMITTAL OF REPLY BRIEF IN RESPONSE TO EXAMINERS ANSWER
(PATENT APPLICATION – 37 CFR §1.193(b)(1))

1. Transmitted herewith is the REPLY BRIEF in this application, with respect to the Notice of Appeal filed on December 7, 2005

2. STATUS OF APPLICANT

This application is on behalf of:

other than a small entity
 small entity

A Verified Statement:

is attached
 was already filed

Applicant : Jeremy A. Fogg et al.
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Page : 2

3. FEE FOR FILING REPLY BRIEF

There is no fee for filing a reply brief.

Reply Brief Fee Due: \$0.00

4. EXTENSION OF TERM

The proceedings herein are for a patent application and the provisions of 37 C.F.R. §1.136 apply.

X Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

5. TOTAL FEE DUE

The total fee due is:

Reply Brief fee:	<u>\$0.00</u>
Extension fee (if any):	<u>\$0.00</u>

TOTAL FEE DUE: \$00.00

5. FEE PAYMENT

 Attached is a check in the sum of _____

 Charge Account No. 07-1070 the sum of _____
A duplicate of this transmittal is attached.

6. FEE DEFICIENCY

X If any additional extension and/or fee is required charge Account No. 07-1070.

Applicant : Jeremy A. Fogg et al.
Appln. No. : 10/783,273
Page : 2

Respectfully Submitted,

JEREMY A. FOGG ET AL.

Date: June 15, 2006

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Atty. Docket No. GEN10 P-455

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REPLY BRIEF IN RESPONSE TO EXAMINER'S ANSWER (37 CFR §1.193(b)(1))

The Appellant respectfully requests that the Board of Patent Appeals and Interferences consider the reply brief to the Examiner's answer regarding the above referenced case included herewith. This reply brief to the Examiner's answer is in furtherance of the Notice of Appeal filed in the above referenced case on December 7, 2005.

If any fee is required, the Appellant asks that the fee be charged to Deposit Account No. 07-1070.

REMARKS

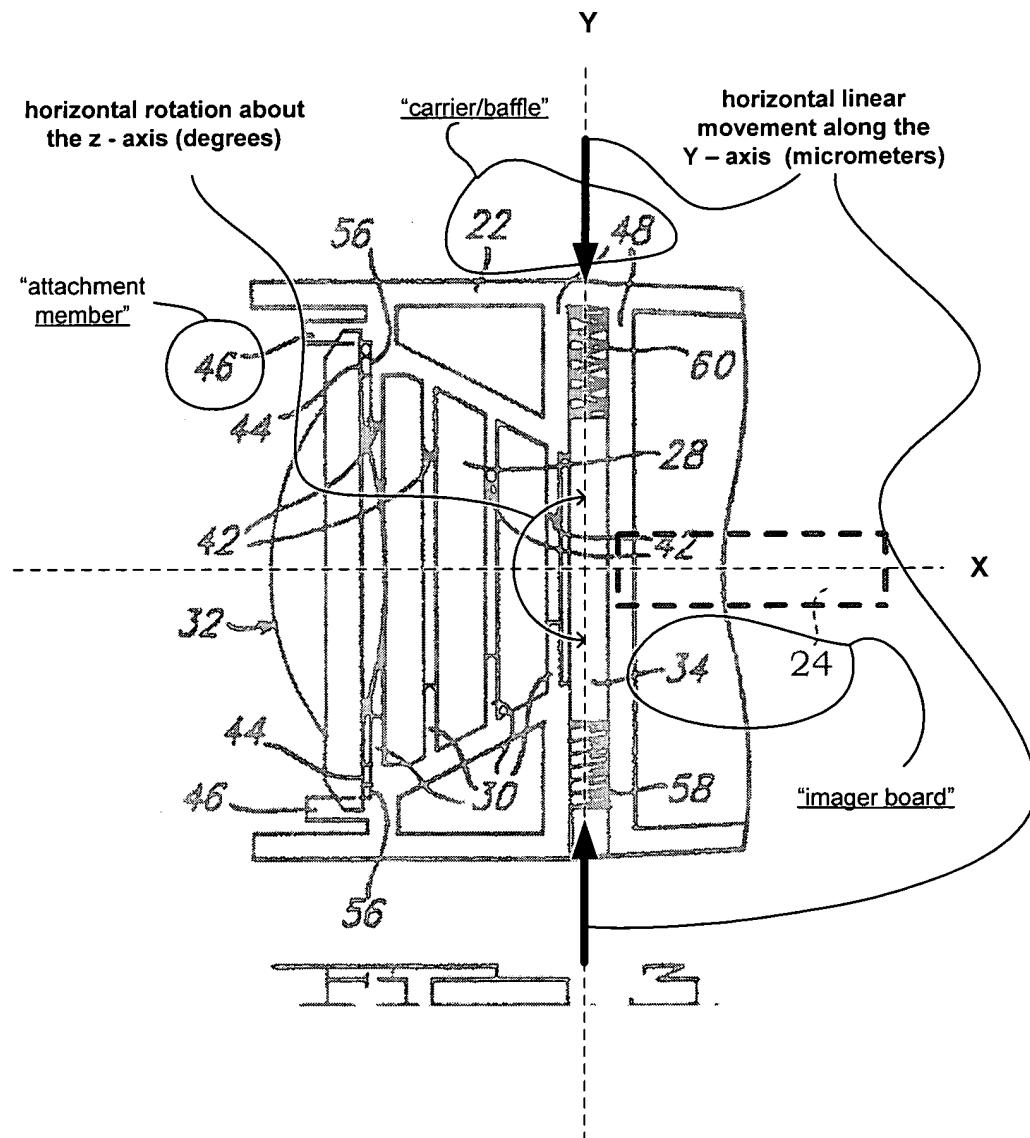
The Examiner has maintained his rejection of independent claims 1 and 20 under 35 U.S.C. §102(b) in the Examiner's Answer, dated April 17, 2006. In addition to the arguments in support of patentability asserted in the Appellant's Appeal Brief, dated February 7, 2006, the Appellant requests that the Board of Patent Appeals and Interferences consider the following.

The Examiner continues to allege that U.S. Patent 5,124,549, to Michaels et al., teaches each and every limitation as currently recited in independent claims 1 and 20. The Examiner asserts that the alignment pins (46) structure of Michaels et al. are equivalent to the **attachment member** (455, 555, 655, 755, 955, 1055, 1155, 1255, 1355, 1455) of the present application; that the structure of the housing (22) combined with the support walls (48) of Michaels et al. is equivalent to the **baffle/carrier** (430, 530, 830, 930, 1030, 1130, 1230, 1330, 1430) of the present application; and that the printed circuit board (24) and the detector (34) of Michaels et al. combine to be equivalent in structure to the **imager board** (410, 510, 910, 1010, 1110, 1210, 1310, 1410) of the present application. The Examiner continues by stating that Michaels et al. discloses, at col. 5, lines 54-61, that "*the attachment member and the carrier cooperate to define an actual image sensor optical axis within approximately + 5 degrees and - 5 degrees of a desired image sensor optical axis*".

The Appellant has reproduced herein Fig. 3 of Michaels et al. with an overlay depicting the difference between linear movement (commonly measured in micrometers) as disclosed in Michaels et al. and angular movement (commonly measured in degrees) as disclosed and claimed in the present application. Merriam-

Webster Online Dictionary provides a definition for "degrees" when used in the context of describing angular movement in a mechanical apparatus:

Degrees - a unit of measure for angles equal to an angle with its vertex at the center of a circle and its sides cutting off 1/360 of the circumference; *also* : a unit of measure for arcs of a circle equal to the amount of arc that subtends a central angle of one degree.



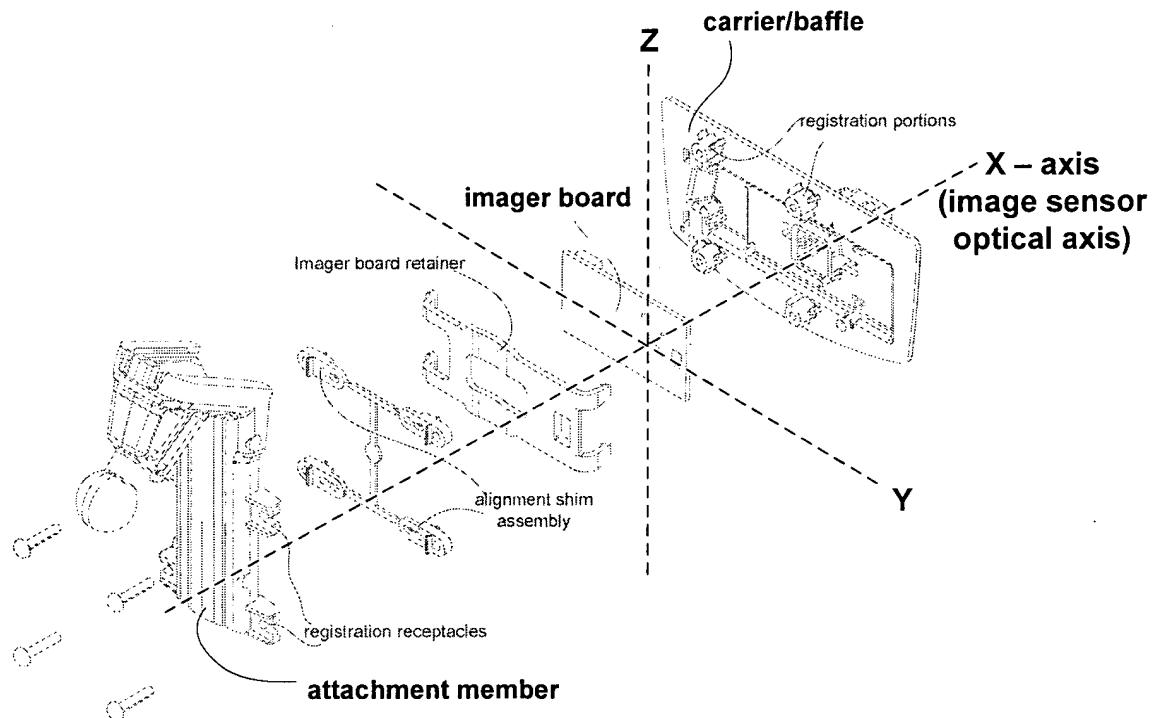
[Structure disclosed in U.S. Patent 5,124,549, to Michaels et al.]

As can be seen, the “attachment member” (the Examiner points to element 46 of Michaels et al.) and “carrier/baffle” (the Examiner points to elements 22 and 48 of Michaels et al.) are actually one integral piece; Element 46 actually retains the lens (32) in place not an imager board. There is no structure disclosed in Michaels et al. between the mounting flange (21) and the detector (34) or the printed circuit board (24) *configured to secure an “imager board”* (the Examiner points to elements 22 and 48 of Michaels et al.) *relative a desired image sensor optical axis* as disclosed and claimed in the present application. In actuality, the ultimate angular alignment of the apparatus of Michaels et al. will be completely dependent upon alignment of the given vehicle structure to which the mounting flange (21) is attached.

Michaels et al. does not even recognize the problems confronting the inventors of the present invention, let alone, offer solutions anticipatory of the present invention. The problems solved by the invention of the present application, as described in pain taking detail throughout the disclosure, are related to vehicle-to-vehicle automatic vehicle exterior light control system mechanical installation variations. As disclosed, the apparatus of the present invention provides precision angular positioning of an imager board within a vehicle despite vehicle-to-vehicle metal body variations, windshield placement variations, windshield mounting button variations, attachment member engagement of the windshield mounting button variations, etc.

An excerpt from Fig. 5 of the present application is included herein with overlays to assist in further contrasting the structure disclosed and claimed in the present

application with that of Michaels et al. relied upon by the Examiner in rejection of claims 1 and 20.



[One embodiment of the present invention for illustrative purposes]

Michaels et al. does not teach or suggest any structure providing precision angular mounting of an imager board period, let alone, in a vehicle. The adjustment screw (58) of Michaels et al. provides only linear horizontal movement (once again, commonly measured in micrometers) along the Y – axis. It is acknowledged that Michaels et al. discusses that “similar adjustment means” may be provided for vertical adjustment (col. 6, lines 33-35). It should be noted, however, that Michaels et al. does not disclose a structure providing both vertical and horizontal movement.

The structure associated with providing angular alignment of an imager board as described and claimed in the present application involves use of variable registration

receptacle(s) of an attachment member and, or, variable length registration portion(s) of a carrier and, or, variable alignment shim(s) of an alignment shim assembly.

In that Michaels et al. does not make mention of a “desired image sensor optical axis” or acknowledge vehicle-to-vehicle variations, it is complete speculation as to any structure within Michaels et al. that could cooperate to secure an *imager board* relative to the desired image sensor optical axis. As mentioned above, the “attachment member” (elements 46, as alleged by the Examiner) and “carrier/baffle” (elements 22 and 48, as alleged by the Examiner) portions relied upon by the Examiner are actually one integral piece. Once again, there is absolutely no structure disclosed in Michaels et al. between the mounting flange (21) and the detector (34) or the printed circuit board (24) configured to secure an “imager board” relative a desired image sensor optical axis as disclosed and claimed in the present application.

Structure providing angular movement was not contemplated by Michaels et al. mainly due to the fact that the device of Michaels et al. is a “single sensor” detector (col. 6, line 66 – col. 7, line 8), not an “image sensor”. Use of an “image sensor”, as disclosed and claimed in the present application, entails a quite different set of optical considerations than considerations associated with a single sensor. A “single sensor” only quantifies the total *illumination* incident on the detector, therefore, a single sensor is tolerant of angular variations. An image sensor, in stark contrast, acquires a plurality of individual “single sensor” values defining image data representative of a given scene (i.e. each pixel of an image sensor senses *illumination* associated with a small, discrete, portion of a given field of view). Image data acquired from an image sensor is extremely sensitive to angular variations; quite divergent sets of image data are obtained when

image sensor aim varies from vehicle-to-vehicle. Combining the fact that Michaels et al. does not even mention a desired “image sensor optical axis” with the fact that the detector (34) and printed circuit board (24) interrelationship depicted in Fig. 7 is uncertain, it is difficult to imagine what structure of Michaels et al. is equivalent to the “imager board” of the present invention.

The Appellant submits that the MPEP, along with the relevant laws, rules and case law referenced therein, is quite clear as to interpretation of both structural and functional language in an apparatus claim. The MPEP states:

In order for a claim to be anticipated under 35 U.S.C. §102, however, each and every element as set forth in the claim must be found in a single prior art reference. M.P.E.P. § 2131 (emphasis added).

Furthermore, functional language in an apparatus claim requires that the anticipatory reference possess the capability of performing the recited function. *R.A.C.C. Industries Inc. v. Stun-Tech Inc.*, 49 USPQ2d 1793 (Fed. Cir. 1998) ("[I]n *Intel Corp. v. U.S. International Trade Commission*, 948 [sic, 946] F.2d 821, 832, 20 USPQ2d 1161, 1171 (Fed. Cir. 1991)), this court interpreted functional language in an apparatus claim as requiring that an accused apparatus possess the capability of performing the recited function.").

"A functional limitation must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art in the context in which it is used." MPEP 2173.05(g).

Therefore, the Appellant respectfully submits that there is absolutely no teaching in Michaels et al. of an automatic vehicle exterior light control system, comprising: an **attachment member** and **carrier/baffle** *configured to secure an imager board within*

approximately 5 degrees and approximately -5 degrees of a desired image sensor optical axis as recited in claim 1 of the present application.

It can be said with equal vigor that Michaels et al. does not teach or suggest an automatic vehicle equipment control system, comprising: an **attachment member** and **carrier** *configured to secure an imager board within approximately 5 degrees and approximately -5 degrees of a desired image sensor optical axis*, said attachment member and said carrier cooperate to define an actual image sensor optical axis as recited in claim 20 of the present application.

Accordingly, reversal of the rejections of these claims under 35 U.S.C. §§102 and 103 is appropriate and is respectfully solicited. The Appellant, therefore, respectfully requests that the Board of Patent Appeals and Interferences issue a decision in which claims 1-7 and 20-23 are indicated to be allowable in light of the art of record. The Appellant additionally requests that the decision indicate support for passing this case to allowance.

Respectfully submitted,
JEREMY A. FOGG ET AL.
By: Gentex Corporation

June 15, 2006
Date

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